Technical Illustration Transfer Using

Texas Instruments

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MIL-D-28000A (IGES)
MIL-R-28002A (Raster)
MIL-D-28003A (CGM)

Quick Short Test Report

16 October 1992

Prepared for

Air Force Materiel Command

19960826 068

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Quick Short Test Report

16 October 1992

Prepared By
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Contents

1. Introduction

1.1 Background

The DoD Computer-aided Acquisition and Logistics Support (CALS) Test Network (CTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The CTN is a DoD-sponsored confederation of voluntary participants from industry and government managed by the Air Force Materiel Command.

The primary objective of the CTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards, formal and informal. Formal tests are large, comprehensive tests that follow a written test plan, require specific authorization from DoD, and may take months to prepare, execute, and report.

Informal tests are used by the CTN technical staff to broaden the testing base by including representative samples of the many systems and applications used by CTN participants. They also allow the CTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and to respond, in a timely manner, to the many requests for help that come from participants. Participants take part voluntarily and are benefited by receiving an evaluation of their latest implementation (interpretation) of the standards, interacting with the CTN technical staff, gaining experience in use of the standards, and developing increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test reported in this QSTR was to analyze Texas Instruments' interpretation and use of the CALS standards in transferring technical publications Illustration data. Texas Instruments used its CALS Technical Data Interchange System to produce data in accordance with the standards and delivered it to the CTN technical staff on a 9-track magnetic tape.

2. Test Parameters

Test Plan: AFTB 92-68

**Date of
Evaluation:**   16 October 1992

Evaluators: George Elwood
                                          Air Force CALS Test Bed
                                          HQ AFMC/ENCT
                                          4027 Colonel Glenn Hwy
                                          Suite 200
                                          Dayton, Ohio 45431-1601

**Data
Originator:**   Texas Instruments
                                        Mike Hurn
                                        6500 Chase Oaks Boulevard
                                        M/S 8420
                                        Plano, TX 75086

**Data
Description:**   Technical Manual Test
                                                  1 document declaration file
                                                  2 IGES files
                                                  1 Raster file
                                                  1 CGM file

**Data
Source System:**

                    IGES
                              HARDWARE
                                        Unknown
                              SOFTWARE
                                        Unknown

                    Raster
                              HARDWARE
                                        Unknown
                              SOFTWARE
                                        Unknown

                    CGM
                              HARDWARE
                                        Unknown
                              SOFTWARE
                                        Unknown

Evaluation Tools Used:

    MIL-STD-1840A (TAPE)
        SUN 3/280
            CTN *Tapetools* (v1.2.8) UNIX
            Agfa Compugraphics *CAPS/CALS* v40.4

    MIL-D-28000 (IGES)
        Sun SparcStation 2
            ArborText *iges2draw*
            IDA *Parser/Verifier*
            IDA *IGESView V3.0*
            International TechneGroup Incorporated
                IGES/Works 1.0
            Rosetta Technologies *Preview* V3.2
        Cheetah Gold 486
            AutoCAD 386 R11
            Cadkey V4.06
            IDA IGES *Parser/Verifier*

    MIL-R-28002 (Raster)
        SUN SparcStation 2
            ArborText *g42tiff*
            Agfa *CAPS ccitt2caps v6.0x*
            CTN *validg4*
            CTN *calstb.475*
            Island Graphics *IslandPaint 3.0*
        Cheetah
            Inset Systems *HiJaak* V2.02
            SPC *Harvard Graphics* V3.0

    MIL-D-28003 (CGM)
        SUN SparcStation 2
            ArborText *cgm2draw*
            Island Graphics *IslandDraw 3.0*
        Sun 3/60
            Advanced Technology Center *CGM-View* R2.0
        Cheetah Gold 486
            ATC *MetaVIEW*   R 1.12
            ATC *MetaCHECK* R 2.05
            Harvard Graphics 3.0

**Standards
Tested:**
        MIL-STD-1840A
        MIL-D-28000A
        MIL-R-28002A
        MIL-D-28003A

3. 1840A Analysis

3.1 External Packaging

The tape arrived at the Air Force Test Bed enclosed in a box IAW ASTM D 3951. The exterior of the box was marked with the required magnetic tape warning label, MIL-STD-1840A, para. 5.3.1.3.

The tape was enclosed in a barrier bag as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reel showed the required label indicating the recording density as required by MIL-STD-1840A, para. 5.3.1. Enclosed in the box was a packing list showing all files that were recorded on the tape.

3.2 Transmission Envelope

The 9-track tape received by the Air Force Test Bed contained MIL-STD-1840A files. The files were named per the standard conventions.

3.2.1 Tape Formats

The 1840A Tape was run through the AFTB *Tapetool* utility version 1.2.8. No errors were encountered while evaluating the contents of the tape labels.

3.2.2 Declaration and Header Fields

No errors were found in the Document Declaration File or data file headers.

4. IGES Analysis

This tape contained two IGES files. These files were declared as CALS Class II files.

The files were evaluated using IDA's *Parser/Verifier* with CALS options. Both files were reported as having many er-

rors, both basic IGES and CALS Class II errors. The complete error logs for both files are located in the appendix to this report.

The files were imported into *AutoCAD R11*. Many errors were displayed during the conversion of the files indicating nonsupport entities. The output displayed and printed showing only the text located around the drawing.

The files were converted to *Cadkey* format and run into this software application. The results were several drawings and models located around the screen.

The files were imported into ITI's *IGESWorks*. Both files generated error messages during the import process. The import generated into three drawings. One of the drawings was the basic drawing sheet.

The files were converted to *IslandDraw* format using Arbortext *iges2draw* utility. This is not a Class II tool and does not support 3-D models. The results were the drawing outline sheets when imported into Island Graphics *IslandDraw*.

The files were imported in IDA's *IGESView*. No errors were reported during this procedure. The results were the drawing sheet outlines. No models were displayed.

The files were converted using Rosetta Technologies *Prepare*. No error were reported during this procedure. *Prepare* generated four drawings for each file, one of which was blank. The first drawing consisted of the sheet outline. The other two sheets were the models.

The IGES files did not meet current CALS Standards.

5. SGML Analysis

No SGML files were included on this tape.

6. Raster Analysis

The tape contained one raster file. The file was reported as being a valid CALS Raster file by the CTN *validg4*. The file was imported into Rosetta Technologies *Preview* with no

reported errors. The image displayed without problem. It was noted that the image was reversed. The file was also converted using ArborText *g42tiff* and then imported into Island Graphics *IslandPaint*. Again, the image was reversed.

The raster file was a valid file but was scanned backward.

7. CGM Analysis

The tape contained one CGM file. This file was evaluated using ATC's *MetaCheck* with CALS options. This utility reported the file was a valid CALS CGM file. The file was also checked using the CTN *validcgm* utility. This utility also reported the file as a valid file.

The CGM file was imported into *Harvard Graphics 3.0* without problem. The image displayed and printed without problem. The file was also converted using ArborText *cgm2draw* utility. No problems were reported. The resulting file was imported into Island Graphics *IslandDraw* without problem. The file was also directly imported into *IslandDraw* without problem. The file was also viewed using ATC's *Metaview* and *CGMView* without problem.

The CGM file meets current CALS MIL-D-28003A standards.

8. Conclusions and Recommendations

In summary, the MIL-STD-1840A tape from Texas Instruments was correct. The tape could be read properly using the CTN *Tapetool* and Agfa CAPS *read1840A* without reported problem.

The IGES files did not meet current CALS standards. The files did not have the required statement required by MIL-D-28000A. The files also contained many basic IGES and CALS errors.

The raster file meets current CALS standards. The file was scanned backward.

The CGM file meets current CALS standards. The file was reported as meeting standards by both *MetaCheck* and *valid-cgm*. The images were imported, displayed and printed without problem.

The CGM and Raster files contained on this tape meet current CALS standards; however, the IGES files contained on this tape do not meet current CALS standards.

9. Appendix A - Tape Tool Report Logs

9.1 Tape Catalog

CALS Test Network Catalog Evaluation - Version 1.2; Release Number 8

Standards referenced:
  MIL-STD-1840A (1987) - Automated Interchange of Technical Information
  MIL-R-28003 (1988) - Digital Representation For Communication Of
                       Illustration Data; CGM Application Profile
  ANSI X3.27 (1987) - File Structure and Labelling of Magnetic Tapes
                      for Information Interchange
  ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Thu Oct 15 10:43:53 1992

MIL-STD-1840A File Catalog

File Set Directory: /cals/tapetool8/Set101

Page: 1

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D001Q001	IGES	F/00080	02000/000217	Extracted
D001Q002	IGES	F/00080	02000/000215	Extracted
D001C003	CGM	F/00080	00800/000074	Extracted
D001R004	Raster	F/00128	02048/000027	Extracted

Catalog Process terminated normally.

9.2 Tape Evaluation Log

CALS Test Network Tape Evaluation - Version 1.2; Release Number 8
  Standards referenced:
    ANSI X3.27 (1987) - File Structure and Labelling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Thu Oct 15 10:43:29 1992

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1CALS01   TI-TAPETOOL   4

  Label Identifier: VOL1
  Volume Identifier: CALS01
  Volume Accessibility:
  Owner Identifier:
  Label Standard Version: 4

HDR1D001   CALS0100010001000000 92269 00000 000000TI-TAPETOOL

  Label Identifier: HDR1
  File Identifier: D001
  File Set Identifier: CALS01
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0000
  Generation Version Number: 00
  Creation Date: 92269
  Expiration Date: 00000
  File Accessibility:
  Block Count: 000000
  Implementation Identifier: TI-TAPETOOL

HDR2D0204800260   00

  Label Identifier: HDR2
  Recording Format: D
  Block Length: 02048
  Record Length: 00260
  Offset Length: 00

*********** Tape Mark ***************

9

Actual Block Size Found = 2048 Bytes.

Number of data blocks read = 1.

*********** Tape Mark ***************

EOF1D001   CALS0100010001000000 92269 00000 000001TI-TAPETOOL

  Label Identifier: EOF1
  File Identifier: D001
  File Set Identifier: CALS01
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0000
  Generation Version Number: 00
  Creation Date: 92269
  Expiration Date: 00000
  File Accessibility:
  Block Count: 000001
  Implementation Identifier: TI-TAPETOOL

EOF2D0204800260   00

  Label Identifier: EOF2
  Recording Format: D
  Block Length: 02048
  Record Length: 00260
  Offset Length: 00

*********** Tape Mark ***************

HDR1D001Q001   CALS0100010002000000 92269 00000 000000TI-TAPETOOL

                    <<<<< PART OF LOG REMOVED HERE >>>>>

*********** Tape Mark ***************

HDR1D001R004   CALS0100010005000000 92269 00000 000000TI-TAPETOOL

  Label Identifier: HDR1
  File Identifier: D001R004
  File Set Identifier: CALS01
  File Section Number: 0001
  File Sequence Number: 0005
  Generation Number: 0000
  Generation Version Number: 00
  Creation Date: 92269
  Expiration Date: 00000

```
    File Accessibility:
    Block Count: 000000
    Implementation Identifier: TI-TAPETOOL

HDR2F0204800128                                         00

    Label Identifier: HDR2
    Recording Format: F
    Block Length: 02048
    Record Length: 00128
    Offset Length: 00

************ Tape Mark ***************

    Actual Block Size Found = 2048 Bytes.

    Number of data blocks read = 27.

************ Tape Mark ***************

EOF1D001R004           CALS0100010005000000 92269 00000 000027TI-TAPETOOL

    Label Identifier: EOF1
    File Identifier: D001R004
    File Set Identifier: CALS01
    File Section Number: 0001
    File Sequence Number: 0005
    Generation Number: 0000
    Generation Version Number: 00
    Creation Date:  92269
    Expiration Date:  00000
    File Accessibility:
    Block Count: 000027
    Implementation Identifier: TI-TAPETOOL

EOF2F0204800128                                         00

    Label Identifier: EOF2
    Recording Format: F
    Block Length: 02048
    Record Length: 00128
    Offset Length: 00

************ Tape Mark ***************

************ Tape Mark ***************

############ End of Volume CALS01 #############
```

############ End Of Tape File Set #############

Deallocating /dev/rmt0...

Tape Import Process terminated with 0 error(s), 0 warning(s),
and 0 note(s).

9.3 Tape File Set Validation Log

CALS Test Network File Set Evaluation - Version 1.2; Release Number 8
  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information
    MIL-R-28002 (1989) - Raster Graphics Representation In Binary
                         Format, Requirements For

Thu Oct 15 10:43:53 1992

MIL-STD-1840A File Set Evaluation Log

File Set: Set101

Found file: D001
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: Texas Instruments P.O.Box 869305 Plano, TX 75086
srcdocid: CALS TEST NETWORK TEST DOCUMENT 1
srcrelid: NONE
chglvl: ORIGINAL
dteisu: 19920925
dstsys: CALS TEST NETWORK AFLC LMSC/SJT WRIGHT-PATTERSON AFB, OHIO 44533-5001
dstdocid: TEXAS INSTRUMENTS TEST DOCUMENT 1
dstrelid: NONE
dtetrn: 19920925
dlvacc: NONE
filcnt: C1,Q2,R1
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: Product Data
docttl: NONE

Found file: D001Q001
Extracting IGES Header Records...
Evaluating IGES Header Records...

srcdocid: NONE
dstdocid: NONE
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
notes: NONE

Saving IGES Header File: D001Q001_HDR

Saving IGES Data File: D001Q001_IGS

Found file: D001Q002
Extracting IGES Header Records...
Evaluating IGES Header Records...

srcdocid: NONE
dstdocid: NONE
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
notes: NONE

Saving IGES Header File: D001Q002_HDR
Saving IGES Data File: D001Q002_IGS

Found file: D001C003
Extracting CGM Header Records...
Evaluating CGM Header Records...

srcdocid: NONE
dstdocid: NONE
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
notes: NONE

Saving CGM Header File: D001C003_HDR
Saving CGM Data File: D001C003_CGM

Found file: D001R004
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: NONE
dstdocid: NONE
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: NONE
rtype: 1
rorient: 000,090
rpelcnt: 003152,004123
rdensty: 0300
notes: NONE

Saving Raster Header File: D001R004_HDR

Saving Raster Data File: D001R004_GR4

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D001.

No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.

10. Appendix B - IGES Detail Analysis

10.1 File D001Q001

10.1.1 Paser/Verifer Log

```
           *** IGES DATA FILE ANALYSIS ***
           ***        MARCH 1992        ***
           ***    IGES Data Analysis    ***
           ***       (708) 449-3430     ***

  Input file is ti01.igs

  Checking conformance to CALS Class II (MIL-D-28000A 2/10/92)

  Today is October 15, 1992  11:16 AM

*** File and Product Name Information ***

    File name from sender     = 'scr.4212011'
    File creation Date.Time    = '920922.135247'
    Model change Date.Time     = ''
    Author                     = 'mda drafting'
    Department                 = 'ti-lewisville'
    Product name from sender = 'prod.4212011'
    Destination product name = 'prod.4212011'

*** Parameter Delimiters ***

    Delimiter  = ','
    Terminator = ';'

*** Originating System Data ***

    System ID              = 'COMPUTERVISION CADDStation REV 6.0 GRAPHIC SYSTEM'
    Preprocessor version   = 'CADDS-IGES REVISION 6.0 (23-Oct-90) '
    Specification version = 4 (IGES 3.0)

*** Precision levels ***
    Integer bits =    32
    Floating point   -  Exponent =    38  Mantissa =     6
    Double precision - Exponent =    308  Mantissa =    14

*** Global Model Data ***

    Model scale            = 1.0000E+00
    Unit flag              = 1
```

```
Units                    =  'IN'
Line weights             =  32767
Maximum line thickness   =  3.276700E+01
Minimum line thickness   =  1.000000E-03
Granularity              =  5.000000E-04
Maximum coordinate       =  0.000000E+00
```
CAUTION 2316: Maximum intended coordinate value of 0.000000E+00 will be
              defaulted to zero.

   Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

```
Blank status: Visible                 1303
              Blanked                    2


Independence: Independent               387
              Physically Subordinate    845
              Logically Subordinate      14
              Totally Subordinate        59


Entity use:   Geometry                  276
              Annotation                843
              Definition                154
              Other                      32
              Logical/Positional          0
              2D parametric               0
              Not Specified               0


Hierarchy:    Structure DE applies        0
              Subordinate DE applies   1305
              Hierarchy property applies  0
              Not Specified               0
```

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
100	0	0	1	Circular arc
100	0	11	1	
100	0	225	20	
100	0	226	20	
100	0	240	44	
100	0	250	25	
100	0	253	1	
102	0	0	8	Composite curve

106	11	0	5	Copious data - Piecewise planar, linear string(2D path)
106	12	0	1	Copious data - Piecewise linear string(3D linear p
106	31	0	3	Section lines - General use, iron, brick, stone ma
106	40	0	32	Witness line
* 108	0	0	24	Plane, Unbounded
110	0	0	67	Line
110	0	5	16	
110	0	11	2	
110	0	225	49	
110	0	226	36	
110	0	240	28	
110	0	250	180	
110	0	251	40	
110	0	252	86	
110	0	253	22	
116	0	225	2	Point
124	0	0	38	Transformation matrix
126	0	225	7	Rational B-spline curve
126	0	226	7	
206	0	240	1	Diameter dimension
210	0	0	6	General label
212	0	0	29	General note
212	6	0	19	General note - multiple stack/left justified
212	6	240	1	
212	6	250	161	
212	6	253	40	
212	7	0	10	General note - multiple stack/center justified
212	7	253	2	
212	8	0	5	General note - multiple stack/right justified
212	8	253	9	
214	3	0	42	Leader arrow - Filled triangle
214	6	0	1	Leader arrow - Filled circle
216	0	0	12	Linear dimension
216	0	240	4	
222	0	0	1	Radius dimension
228	0	0	5	General symbol
230	0	250	8	Sectioned area (Standard Crosshatching)
304	2	0	2	Line font definition - repeating pattern
312	0	254	22	Text template - absolute coordinates
314	0	0	18	Color definition
320	0	0	2	Network subfigure definition
402	1	0	8	Group instance
402	3	0	9	Views visible instance
402	4	0	91	Views visible, Color, Line weight instance
402	7	0	1	Group without back-pointers instance
404	0	0	4	Drawing
406	15	0	11	Property - Name
406	16	0	2	Property - Drawing size

	406	17	0	4	Property - Drawing units
+	406	5557	0	2	Implementor entity instance
	410	0	0	6	View - Orthographic parallel
	420	0	0	2	Network subfigure instance

+ Indicates use of a Implementor defined form or entity.
* Indicates use of a form or entity not defined in the IGES version specified.

*** Entity Count by Level ***

Level	Count
0	471
5	16
11	3
225	78
226	63
240	78
250	374
251	40
252	86
253	74
254	22

*** Labeling Information ***

0% of the entities are labeled.

Unlabeled   1305

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
-	8	-	37	24	16	-	-	Undefined
112	-	-	4	-	477	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	1	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	32	-	-	User defined

116	118	120	122	124	125	126	128	
-	-	-	-	38	-	-	-	Undefined
2	-	-	-	-	-	14	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line

-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

130	132	134	136	138	140	142	144	
-	-	-	-	-	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

*** Line Widths Used in Data ***

Weight	Count	Width
Defaulted	1305	(0.0010)

*** Colors Used in Data ***

Defaulted	819
Green	57
Yellow	204
Magenta	145
Cyan	3
White	7
User	70

```
******************************
******  ENTITY ANALYSIS  ******
******************************
```

*** Entity type: 100

*** Entity type: 102

ERROR   2033: Endpoints of curves D   1553 and D   1551 disjoint by 2.000008E-01
              at D   1581.
ERROR   2033: Endpoints of curves D   1551 and D   1549 disjoint by 2.236077E-01
              at D   1581.
ERROR   2033: Endpoints of curves D   1561 and D   1559 disjoint by 2.000008E-01
              at D   1585.
ERROR   2033: Endpoints of curves D   1559 and D   1557 disjoint by 2.236070E-01
              at D   1585.
ERROR   2033: Endpoints of curves D   1569 and D   1567 disjoint by 2.000008E-01

                             at D   1589.
ERROR   2033: Endpoints of curves D   1567 and D   1565 disjoint by 2.236070E-01
                             at D   1589.
ERROR   2033: Endpoints of curves D   1577 and D   1575 disjoint by 2.000008E-01
                             at D   1593.
ERROR   2033: Endpoints of curves D   1575 and D   1573 disjoint by 2.236077E-01
                             at D   1593.
ERROR   2033: Endpoints of curves D   2293 and D   2291 disjoint by 2.000008E-01
                             at D   2321.
ERROR   2033: Endpoints of curves D   2291 and D   2289 disjoint by 2.236077E-01
                             at D   2321.
ERROR   2033: Messages regarding disjoint composite curves suppressed.

 *** Entity type: 106

CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D   1161.
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D   1163.
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D   1165.

 *** Entity type: 108

WARNING 2082: Form zero is not defined in the IGES version specified at D
              103.
WARNING 2082: Form zero is not defined in the IGES version specified at D
              105.
WARNING 2082: Form zero is not defined in the IGES version specified at D
              107.
WARNING 2082: Form zero is not defined in the IGES version specified at D
              109.
WARNING 2082: Form zero is not defined in the IGES version specified at D
              117.
WARNING 2082: Form zero is not defined in the IGES version specified at D
              119.
WARNING 2082: Form zero is not defined in the IGES version specified at D
              121.
WARNING 2082: Form zero is not defined in the IGES version specified at D
              123.
WARNING 2082: Form zero is not defined in the IGES version specified at D
              131.
WARNING 2082: Form zero is not defined in the IGES version specified at D
              133.
WARNING 2082: Messages regarding form zero suppressed.

 *** Entity type: 110

CAUTION 2336: Zero length line at D   1909.
   --   526 lines averaging 1.909132E+00 units --

 *** Entity type: 116

*** Entity type: 124

38 transformation matrices, 3 non-zero translations.
NOTE   2341: 3 matrices contain translation information.

*** Entity type: 126

*** Entity type: 206

*** Entity type: 210

*** Entity type: 212

WARNING 2086: Invalid font (1003) referenced by string 1 in general note at D
              957.
WARNING 2086: Invalid font (1003) referenced by string 1 in general note at D
              969.
WARNING 2086: Invalid font (1003) referenced by string 1 in general note at D
              981.
WARNING 2086: Invalid font (1003) referenced by string 2 in general note at D
              981.
WARNING 2086: Invalid font (1003) referenced by string 1 in general note at D
              993.
WARNING 2086: Invalid font (1003) referenced by string 1 in general note at D
              1005.
WARNING 2086: Invalid font (1003) referenced by string 2 in general note at D
              1005.
WARNING 2086: Invalid font (1003) referenced by string 3 in general note at D
              1005.
WARNING 2086: Invalid font (1003) referenced by string 1 in general note at D
              1011.
WARNING 2086: Invalid font (1003) referenced by string 2 in general note at D
              1011.
WARNING 2086: Messages regarding invalid fonts suppressed.
ERROR   4050: Illegal text font for CALS Class II specified for string 1 at D
              1167.
ERROR   4050: Illegal text font for CALS Class II specified for string 2 at D
              1167.
ERROR   4050: Illegal text font for CALS Class II specified for string 1 at D
              1169.
ERROR   4050: Illegal text font for CALS Class II specified for string 1 at D
              1171.
ERROR   4050: Illegal text font for CALS Class II specified for string 1 at D
              1173.

ERROR   4050: Illegal text font for CALS Class II specified for string 1 at D
              1179.
ERROR   4050: Illegal text font for CALS Class II specified for string 2 at D
              1179.
ERROR   4050: Illegal text font for CALS Class II specified for string 3 at D
              1179.
ERROR   4050: Illegal text font for CALS Class II specified for string 1 at D
              1181.
ERROR   4050: Illegal text font for CALS Class II specified for string 1 at D
              1183.
ERROR   4050: Messages regarding illegal text fonts suppressed.
              309 text strings in data file.
              Average text aspect ratio in file is 0.9050666.
              Minimum text aspect ratio in file is 0.5755555.
              Maximum text aspect ratio in file is 1.3999999.

              FONTS USED IN FILE

              FONT   COUNT   NAME

                 1   10   Default ASCII Style
                 2   207   LeRoy
                 7   51   Micro-Film Standard
              1003   49   Drafting Font

*** Entity type: 214

      Average arrow aspect ratio in file is 3.0000000.
      Minimum arrow aspect ratio in file is 3.0000000.
      Maximum arrow aspect ratio in file is 3.0000000.

*** Entity type: 216

*** Entity type: 222

*** Entity type: 228

*** Entity type: 230

*** Entity type: 304

Default line font substitute at D   217 is Solid.
Default line font substitute at D   491 is Center-line.

*** Entity type: 312

ERROR   4038: Entity type is not allowed in CALS Class II.
        22 text templates in data file.
        Average text template aspect ratio in file is 7.8190404.
        Minimum text template aspect ratio in file is 0.8088889.
        Maximum text template aspect ratio in file is 13.4000000.

*** Entity type: 314

 Color specified at D   65 has no name.
   Default color substitute is white.
 Color specified at D   67 has no name.
   Default color substitute is magenta.
 Color specified at D   69 has no name.
   Default color substitute is magenta.
 Color specified at D   71 has no name.
   Default color substitute is magenta.
 Color specified at D   73 has no name.
   Default color substitute is magenta.
 Color specified at D   75 has no name.
   Default color substitute is magenta.
 Color specified at D   77 has no name.
   Default color substitute is magenta.
 Color specified at D   79 has no name.
   Default color substitute is yellow.
 Color specified at D   81 has no name.
   Default color substitute is yellow.
 Color specified at D   83 has no name.
   Default color substitute is cyan.
 Color specified at D   85 has no name.
   Default color substitute is cyan.
 Color specified at D   87 has no name.
   Default color substitute is white.
 Color specified at D   89 has no name.
   Default color substitute is white.
 Color specified at D   91 has no name.
   Default color substitute is white.
 Color specified at D   93 has no name.
   Default color substitute is white.
 Color specified at D   95 has no name.
   Default color substitute is white.
 Color specified at D   97 has no name.
   Default color substitute is white.
 Color specified at D   1685 has no name.
   Default color substitute is cyan.

*** Entity type: 320

ERROR   4038: Entity type is not allowed in CALS Class II.

Subfigure name: 'LIB.JSOW.FMT.IN.D2'.
  Number of included entities = 108.
  Reference designator: DEFAULTED.
  Number of connect points = 0.
Subfigure name: 'LIB.JSOW.FMT.IN.D1'.
  Number of included entities = 457.
  Reference designator: DEFAULTED.
  Number of connect points = 0.

  *** Entity type: 402

WARNING 2324: No members in class 2 of associativity instance at D   183.
WARNING 2324: No members in class 2 of associativity instance at D   219.
WARNING 2324: No members in class 2 of associativity instance at D   239.
WARNING 2324: No members in class 2 of associativity instance at D   255.
WARNING 2324: No members in class 2 of associativity instance at D   279.
WARNING 2324: No members in class 2 of associativity instance at D   319.
WARNING 2324: No members in class 2 of associativity instance at D   335.
WARNING 2324: No members in class 2 of associativity instance at D   365.
WARNING 2324: No members in class 2 of associativity instance at D   375.
WARNING 2324: No members in class 2 of associativity instance at D   383.
WARNING 2324: Messages suppressed
ERROR   4042: Illegal form for CALS Class II specified at D   1555.
ERROR   4042: Illegal form for CALS Class II specified at D   1563.
ERROR   4042: Illegal form for CALS Class II specified at D   1571.
ERROR   4042: Illegal form for CALS Class II specified at D   1579.
ERROR   4042: Illegal form for CALS Class II specified at D   2295.
ERROR   4042: Illegal form for CALS Class II specified at D   2303.
ERROR   4042: Illegal form for CALS Class II specified at D   2311.
ERROR   4042: Illegal form for CALS Class II specified at D   2319.

  *** Entity type: 404

NITPICK 2074: Entity use flag must be 3 for Drawing entity at D   1433.
Drawing at D   1433 contains 1 views.
Drawing at D   1433 contains 75 annotation entities.
NITPICK 2067: Entity (D   1289) referenced by drawing at D   1433 is not marked
          as annotation.
NITPICK 2067: Entity (D   1359) referenced by drawing at D   1433 is not marked
          as annotation.
NITPICK 2067: Entity (D   1367) referenced by drawing at D   1433 is not marked
          as annotation.
NITPICK 2067: Entity (D   1383) referenced by drawing at D   1433 is not marked
          as annotation.
NITPICK 2067: Entity (D   1391) referenced by drawing at D   1433 is not marked
          as annotation.
NITPICK 2067: Entity (D   1415) referenced by drawing at D   1433 is not marked
          as annotation.
NITPICK 2067: Entity (D   1399) referenced by drawing at D   1433 is not marked

___

as annotation.
NITPICK 2067: Entity (D   1363) referenced by drawing at D   1433 is not marked
            as annotation.
NITPICK 2067: Entity (D   1371) referenced by drawing at D   1433 is not marked
            as annotation.
NITPICK 2067: Entity (D   1387) referenced by drawing at D   1433 is not marked
            as annotation.
NITPICK 2067: Messages regarding entities not marked as annotation suppressed.
ERROR   4009: CALS Class II requires a pointer to a Drawing Size Property at D
            1433.
NITPICK 2074: Entity use flag must be 3 for Drawing entity at D   1441.
Drawing at D   1441 contains 4 views.
Drawing at D   1441 contains 115 annotation entities.
NITPICK 2068: Entity (D   1425) is not physically subordinate to drawing entity
            at D   1441.
ERROR   4009: CALS Class II requires a pointer to a Drawing Size Property at D
            1441.
NITPICK 2074: Entity use flag must be 3 for Drawing entity at D   1449.
CAUTION 2325: No views in drawing at D   1449.
Drawing at D   1449 contains 0 annotation entities.
NITPICK 2074: Entity use flag must be 3 for Drawing entity at D   1457.
Drawing at D   1457 contains 1 views.
Drawing at D   1457 contains 0 annotation entities.

 *** Entity type: 406

ERROR   4042: Illegal form for CALS Class II specified at D   1431.
ERROR   4042: Illegal form for CALS Class II specified at D   1439.

 *** Entity type: 410

NITPICK 2073: Entity use flag must be 3 for View entity at D   111.
   Scale of view at D   111 is 1.000000E+00.
Orthographic View entity at D   111 has 4 clipping planes specified.
    XMIN =   2.599   XMAX =   3.005
    YMIN =   0.106   YMAX =   0.541
    ZMIN = Not Set   ZMAX = Not Set

NITPICK 2073: Entity use flag must be 3 for View entity at D   125.
   Scale of view at D   125 is 5.000000E-01.
CAUTION 2315: Matrix associated with view contains translation information at D
            125.
Orthographic View entity at D   125 has 4 clipping planes specified.
    XMIN =   -8.020   XMAX =   7.430
    YMIN =   -7.615   YMAX =   2.076
    ZMIN = Not Set   ZMAX = Not Set

NITPICK 2073: Entity use flag must be 3 for View entity at D   139.
   Scale of view at D   139 is 5.000000E-01.

___

CAUTION 2315: Matrix associated with view contains translation information at D
           139.
Orthographic View entity at D   139 has 4 clipping planes specified.
    XMIN =   3.247   XMAX =   28.036
    YMIN =   -7.545   YMAX =   3.973
    ZMIN = Not Set   ZMAX = Not Set

NITPICK 2073: Entity use flag must be 3 for View entity at D   153.
   Scale of view at D   153 is 5.000000E-01.
CAUTION 2315: Matrix associated with view contains translation information at D
           153.
Orthographic View entity at D   153 has 4 clipping planes specified.
    XMIN =   -7.514   XMAX =   6.671
    YMIN =   -8.387   YMAX =   2.147
    ZMIN = Not Set   ZMAX = Not Set

NITPICK 2073: Entity use flag must be 3 for View entity at D   167.
   Scale of view at D   167 is 1.000000E-01.
Orthographic View entity at D   167 has 4 clipping planes specified.
    XMIN =   58.287   XMAX =   102.530
    YMIN =   26.335   YMAX =   63.906
    ZMIN = Not Set   ZMAX = Not Set

NITPICK 2073: Entity use flag must be 3 for View entity at D   181.
   Scale of view at D   181 is 1.000000E-01.
Orthographic View entity at D   181 has 4 clipping planes specified.
    XMIN = -141.170   XMAX =   78.830
    YMIN =   -92.906   YMAX =   77.094
    ZMIN = Not Set   ZMAX = Not Set

 *** Entity type: 420

ERROR   4038: Entity type is not allowed in CALS Class II.
   Network subfigure instance at D   1287 references network subfigure at D   1683.
ERROR   2162: Network subfigure definition (D   1683) follows instance entity at
           D   1287.
   Reference Designator at D   1287 is DEFAULTED.
   Network subfigure instance at D   1289 references network subfigure at D   2609.
ERROR   2162: Network subfigure definition (D   2609) follows instance entity at
           D   1289.
   Reference Designator at D   1289 is DEFAULTED.

 *** Message Summary ***

2007: 16 Mathematical discontinuities.
2008: 24 Invalid form numbers.
2011: 1 Invalid subordinate relationships.
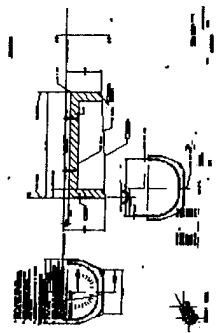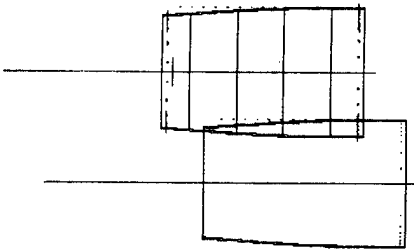2013: 49 Data out of defined range.

2015: 1 Mathematically incorrect definitions.
2016: 35 Invalid entity use flag.
4000: 258 Miscellaneous CALS messages
4008: 2 Missing properties
4018: 3 Illegal entity types
4019: 10 Entities with illegal form

*** Error Summary ***

```
    0 fatal errors
    0 severe errors
  291 errors
  173 warnings
    9 cautions
   36 nitpicks
    1 notes
```

*** End of Analysis of ti01.igs ***

10.1.2 Output AutoCAD R11

10.1.3 Output Cadkey v4.06

10.1.4 Output IGESView

10.1.5 Output IslandDraw

10.1.6 Output Preview

10.2   File D001Q002

10.2.1   Paser/Verifer Log

```
        *** IGES DATA FILE ANALYSIS ***
        ***        MARCH 1992        ***
        ***    IGES Data Analysis    ***
        ***       (708) 449-3430     ***
```

Input file is ti02.igs

Checking conformance to CALS Class II (MIL-D-28000A 2/10/92)

Today is October 15, 1992   11:16 AM

*** File and Product Name Information ***

```
   File name from sender     = 'scr.4212010'
   File creation Date.Time    = '920922.135007'
   Model change Date.Time     = ''
   Author                     = 'mda drafting'
   Department                 = 'ti-lewisville'
   Product name from sender = 'prod.4212010'
   Destination product name = 'prod.4212010'
```

*** Parameter Delimiters ***

```
   Delimiter  = ','
   Terminator = ';'
```

*** Originating System Data ***

```
   System ID              = 'COMPUTERVISION CADDStation REV 6.0 GRAPHIC SYSTEM'
   Preprocessor version  = 'CADDS-IGES REVISION 6.0 (23-Oct-90) '
   Specification version = 4 (IGES 3.0)
```

*** Precision levels ***
```
   Integer bits =     32
   Floating point  -  Exponent =     38  Mantissa =      6
   Double precision - Exponent =    308  Mantissa =     14
```

*** Global Model Data ***

```
   Model scale            = 1.0000E+00
   Unit flag              = 1
   Units                  = 'IN'
   Line weights           = 32767
```

```
    Maximum line thickness = 3.276700E+01
    Minimum line thickness = 1.000000E-03
    Granularity            = 5.000000E-04
    Maximum coordinate     = 0.000000E+00
CAUTION 2316: Maximum intended coordinate value of 0.000000E+00 will be
              defaulted to zero.
```

Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

Blank status:	Visible	1154
	Blanked	3
Independence:	Independent	276
	Physically Subordinate	807
	Logically Subordinate	14
	Totally Subordinate	60
Entity use:	Geometry	149
	Annotation	820
	Definition	168
	Other	20
	Logical/Positional	0
	2D parametric	0
	Not Specified	0
Hierarchy:	Structure DE applies	0
	Subordinate DE applies	1157
	Hierarchy property applies	0
	Not Specified	0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
100	0	0	2	Circular arc
100	0	101	8	
100	0	139	8	
100	0	250	25	
100	0	253	1	
102	0	0	8	Composite curve
106	11	0	4	Copious data - Piecewise planar, linear string(2D path)
106	12	0	2	Copious data - Piecewise linear string(3D linear p
106	20	0	1	Centerline
106	31	0	8	Section lines - General use, iron, brick, stone ma

106	40	0	24	Witness line
* 108	0	0	24	Plane, Unbounded
110	0	0	58	Line
110	0	12	16	
110	0	13	1	
110	0	101	10	
110	0	139	2	
110	0	250	180	
110	0	251	40	
110	0	252	86	
110	0	253	22	
116	0	0	1	Point
124	0	0	15	Transformation matrix
126	0	12	59	Rational B-spline curve
126	0	228	8	
202	0	0	1	Angular dimension
210	0	0	12	General label
212	0	0	30	General note
212	6	0	20	General note - multiple stack/left justified
212	6	250	161	
212	6	253	40	
212	7	0	13	General note - multiple stack/center justified
212	7	253	3	
212	8	0	5	General note - multiple stack/right justified
212	8	253	9	
214	3	0	39	Leader arrow - Filled triangle
216	0	0	11	Linear dimension
222	0	0	2	Radius dimension
228	0	0	4	General symbol
230	0	250	8	Sectioned area (Standard Crosshatching)
304	2	0	2	Line font definition - repeating pattern
312	0	254	10	Text template - absolute coordinates
314	0	0	18	Color definition
320	0	0	2	Network subfigure definition
402	1	0	8	Group instance
402	3	0	5	Views visible instance
402	4	0	111	Views visible, Color, Line weight instance
402	7	0	2	Group without back-pointers instance
404	0	0	3	Drawing
406	15	0	11	Property - Name
406	16	0	1	Property - Drawing size
406	17	0	3	Property - Drawing units
+ 406	5557	0	2	Implementor entity instance
410	0	0	6	View - Orthographic parallel
420	0	0	2	Network subfigure instance

+ Indicates use of a Implementor defined form or entity.
* Indicates use of a form or entity not defined in the IGES version specified.

*** Entity Count by Level ***

Level	Count
0	460
12	75
13	1
101	18
139	10
228	8
250	374
251	40
252	86
253	75
254	10

*** Labeling Information ***

0% of the entities are labeled.

Unlabeled   1157

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
-	8	-	28	24	16	-	-	Undefined
43	-	-	11	-	391	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
1	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	8	-	-	User defined

116	118	120	122	124	125	126	128	
-	-	-	-	15	-	-	-	Undefined
1	-	-	-	-	-	67	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

130	132	134	136	138	140	142	144	
-	-	-	-	-	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed

-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

*** Line Widths Used in Data ***

Weight	Count	Width
Defaulted	1157	(0.0010)

*** Colors Used in Data ***

Defaulted	787
Red	18
Green	57
Yellow	136
Magenta	51
Cyan	3
White	7
User	98

```
******************************
******  ENTITY ANALYSIS  ******
******************************
```

*** Entity type: 100

*** Entity type: 102

ERROR   2033: Endpoints of curves D   1257 and D   1255 disjoint by 2.000008E-01
              at D   1285.
ERROR   2033: Endpoints of curves D   1255 and D   1253 disjoint by 2.236077E-01
              at D   1285.
ERROR   2033: Endpoints of curves D   1265 and D   1263 disjoint by 2.000008E-01
              at D   1289.
ERROR   2033: Endpoints of curves D   1263 and D   1261 disjoint by 2.236070E-01
              at D   1289.
ERROR   2033: Endpoints of curves D   1273 and D   1271 disjoint by 2.000008E-01
              at D   1293.
ERROR   2033: Endpoints of curves D   1271 and D   1269 disjoint by 2.236070E-01
              at D   1293.
ERROR   2033: Endpoints of curves D   1281 and D   1279 disjoint by 2.000008E-01
              at D   1297.
ERROR   2033: Endpoints of curves D   1279 and D   1277 disjoint by 2.236077E-01
              at D   1297.

ERROR   2033: Endpoints of curves D   1997 and D   1995 disjoint by 2.000008E-01
              at D   2025.
ERROR   2033: Endpoints of curves D   1995 and D   1993 disjoint by 2.236077E-01
              at D   2025.
ERROR   2033: Messages regarding disjoint composite curves suppressed.

 *** Entity type: 106

CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D   849.
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D   851.
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D   853.
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D   855.
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D   857.
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D   859.
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D   861.
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D   863.

 *** Entity type: 108

WARNING 2082: Form zero is not defined in the IGES version specified at D
              57.
WARNING 2082: Form zero is not defined in the IGES version specified at D
              59.
WARNING 2082: Form zero is not defined in the IGES version specified at D
              61.
WARNING 2082: Form zero is not defined in the IGES version specified at D
              63.
WARNING 2082: Form zero is not defined in the IGES version specified at D
              71.
WARNING 2082: Form zero is not defined in the IGES version specified at D
              73.
WARNING 2082: Form zero is not defined in the IGES version specified at D
              75.
WARNING 2082: Form zero is not defined in the IGES version specified at D
              77.
WARNING 2082: Form zero is not defined in the IGES version specified at D
              85.
WARNING 2082: Form zero is not defined in the IGES version specified at D
              87.
WARNING 2082: Messages regarding form zero suppressed.

 *** Entity type: 110

CAUTION 2336: Zero length line at D   1613.
  --   415 lines averaging 2.534893E+00 units --

 *** Entity type: 116

*** Entity type: 124

15 transformation matrices, 4 non-zero translations.
NOTE   2341: 4 matrices contain translation information.

*** Entity type: 126

*** Entity type: 202

*** Entity type: 210

*** Entity type: 212

WARNING 2086: Invalid font (1003) referenced by string 1 in general note at D
              693.
WARNING 2086: Invalid font (1003) referenced by string 1 in general note at D
              705.
WARNING 2086: Invalid font (1003) referenced by string 1 in general note at D
              717.
WARNING 2086: Invalid font (1003) referenced by string 2 in general note at D
              717.
WARNING 2086: Invalid font (1003) referenced by string 3 in general note at D
              717.
WARNING 2086: Invalid font (1003) referenced by string 1 in general note at D
              729.
WARNING 2086: Invalid font (1003) referenced by string 2 in general note at D
              729.
WARNING 2086: Invalid font (1003) referenced by string 1 in general note at D
              741.
WARNING 2086: Invalid font (1003) referenced by string 1 in general note at D
              753.
WARNING 2086: Invalid font (1003) referenced by string 2 in general note at D
              753.
WARNING 2086: Messages regarding invalid fonts suppressed.
ERROR   4050: Illegal text font for CALS Class II specified for string 1 at D
              865.
ERROR   4050: Illegal text font for CALS Class II specified for string 2 at D
              865.
ERROR   4050: Illegal text font for CALS Class II specified for string 4 at D
              865.
ERROR   4050: Illegal text font for CALS Class II specified for string 1 at D
              867.
ERROR   4050: Illegal text font for CALS Class II specified for string 1 at D
              873.
ERROR   4050: Illegal text font for CALS Class II specified for string 1 at D
              879.

ERROR   4050: Illegal text font for CALS Class II specified for string 1 at D
             885.
ERROR   4050: Illegal text font for CALS Class II specified for string 1 at D
             891.
ERROR   4050: Illegal text font for CALS Class II specified for string 2 at D
             891.
ERROR   4050: Illegal text font for CALS Class II specified for string 4 at D
             891.
ERROR   4050: Messages regarding illegal text fonts suppressed.
        310 text strings in data file.
        Average text aspect ratio in file is 0.9039628.
        Minimum text aspect ratio in file is 0.5687500.
        Maximum text aspect ratio in file is 1.1499769.

        FONTS USED IN FILE

        FONT   COUNT   NAME

            1   12   Default ASCII Style
            2   215   LeRoy
            7   52   Micro-Film Standard
         1003   32   Drafting Font

*** Entity type: 214

        Average arrow aspect ratio in file is 3.0000000.
        Minimum arrow aspect ratio in file is 3.0000000.
        Maximum arrow aspect ratio in file is 3.0000000.

*** Entity type: 216

*** Entity type: 222

*** Entity type: 228

*** Entity type: 230

*** Entity type: 304

Default line font substitute at D   145 is Solid.
Default line font substitute at D   211 is Center-line.

*** Entity type: 312

ERROR   4038: Entity type is not allowed in CALS Class II.

10 text templates in data file.
Average text template aspect ratio in file is 7.0841250.
Minimum text template aspect ratio in file is 1.4625000.
Maximum text template aspect ratio in file is 13.4000000.

*** Entity type: 314

Color specified at D   19 has no name.
  Default color substitute is white.
Color specified at D   21 has no name.
  Default color substitute is magenta.
Color specified at D   23 has no name.
  Default color substitute is magenta.
Color specified at D   25 has no name.
  Default color substitute is magenta.
Color specified at D   27 has no name.
  Default color substitute is magenta.
Color specified at D   29 has no name.
  Default color substitute is magenta.
Color specified at D   31 has no name.
  Default color substitute is magenta.
Color specified at D   33 has no name.
  Default color substitute is yellow.
Color specified at D   35 has no name.
  Default color substitute is yellow.
Color specified at D   37 has no name.
  Default color substitute is cyan.
Color specified at D   39 has no name.
  Default color substitute is cyan.
Color specified at D   41 has no name.
  Default color substitute is white.
Color specified at D   43 has no name.
  Default color substitute is white.
Color specified at D   45 has no name.
  Default color substitute is white.
Color specified at D   47 has no name.
  Default color substitute is white.
Color specified at D   49 has no name.
  Default color substitute is white.
Color specified at D   51 has no name.
  Default color substitute is white.
Color specified at D   1389 has no name.
  Default color substitute is cyan.

*** Entity type: 320

ERROR   4038: Entity type is not allowed in CALS Class II.
  Subfigure name: 'LIB.JSOW.FMT.IN.D2'.
    Number of included entities = 108.

Reference designator: DEFAULTED.
Number of connect points = 0.
Subfigure name: 'LIB.JSOW.FMT.IN.D1'.
Number of included entities = 457.
Reference designator: DEFAULTED.
Number of connect points = 0.

*** Entity type: 402

WARNING 2324: No members in class 2 of associativity instance at D   137.
WARNING 2324: No members in class 2 of associativity instance at D   141.
WARNING 2324: No members in class 2 of associativity instance at D   147.
WARNING 2324: No members in class 2 of associativity instance at D   151.
WARNING 2324: No members in class 2 of associativity instance at D   155.
WARNING 2324: No members in class 2 of associativity instance at D   159.
WARNING 2324: No members in class 2 of associativity instance at D   163.
WARNING 2324: No members in class 2 of associativity instance at D   167.
WARNING 2324: No members in class 2 of associativity instance at D   171.
WARNING 2324: No members in class 2 of associativity instance at D   175.
WARNING 2324: Messages suppressed
ERROR   4042: Illegal form for CALS Class II specified at D   1259.
ERROR   4042: Illegal form for CALS Class II specified at D   1267.
ERROR   4042: Illegal form for CALS Class II specified at D   1275.
ERROR   4042: Illegal form for CALS Class II specified at D   1283.
ERROR   4042: Illegal form for CALS Class II specified at D   1999.
ERROR   4042: Illegal form for CALS Class II specified at D   2007.
ERROR   4042: Illegal form for CALS Class II specified at D   2015.
ERROR   4042: Illegal form for CALS Class II specified at D   2023.

*** Entity type: 404

NITPICK 2074: Entity use flag must be 3 for Drawing entity at D   1145.
CAUTION 2325: No views in drawing at D   1145.
Drawing at D   1145 contains 63 annotation entities.
NITPICK 2067: Entity (D   1017) referenced by drawing at D   1145 is not marked
              as annotation.
NITPICK 2067: Entity (D   1055) referenced by drawing at D   1145 is not marked
              as annotation.
NITPICK 2067: Entity (D   1031) referenced by drawing at D   1145 is not marked
              as annotation.
NITPICK 2067: Entity (D   1099) referenced by drawing at D   1145 is not marked
              as annotation.
NITPICK 2067: Entity (D   1089) referenced by drawing at D   1145 is not marked
              as annotation.
NITPICK 2067: Entity (D   1085) referenced by drawing at D   1145 is not marked
              as annotation.
NITPICK 2067: Entity (D   1041) referenced by drawing at D   1145 is not marked
              as annotation.
NITPICK 2067: Entity (D   1051) referenced by drawing at D   1145 is not marked

as annotation.
ERROR 4009: CALS Class II requires a pointer to a Drawing Size Property at D 1145.
NITPICK 2074: Entity use flag must be 3 for Drawing entity at D 1153.
Drawing at D 1153 contains 5 views.
Drawing at D 1153 contains 105 annotation entities.
NITPICK 2067: Entity (D 1133) referenced by drawing at D 1153 is not marked as annotation.
NITPICK 2068: Entity (D 1133) is not physically subordinate to drawing entity at D 1153.
NITPICK 2067: Entity (D 1137) referenced by drawing at D 1153 is not marked as annotation.
NITPICK 2068: Entity (D 1137) is not physically subordinate to drawing entity at D 1153.
NITPICK 2067: Messages regarding entities not marked as annotation suppressed.
ERROR 4009: CALS Class II requires a pointer to a Drawing Size Property at D 1153.
NITPICK 2074: Entity use flag must be 3 for Drawing entity at D 1161.
Drawing at D 1161 contains 1 views.
Drawing at D 1161 contains 0 annotation entities.

*** Entity type: 406

ERROR 4042: Illegal form for CALS Class II specified at D 1143.
ERROR 4042: Illegal form for CALS Class II specified at D 1151.

*** Entity type: 410

NITPICK 2073: Entity use flag must be 3 for View entity at D 65.
  Scale of view at D 65 is 2.500000E-01.
Orthographic View entity at D 65 has 4 clipping planes specified.
    XMIN = -46.891   XMAX = 41.109
    YMIN = -38.066   YMAX = 29.934
    ZMIN = Not Set   ZMAX = Not Set

NITPICK 2073: Entity use flag must be 3 for View entity at D 79.
  Scale of view at D 79 is 5.000000E-01.
CAUTION 2315: Matrix associated with view contains translation information at D 79.
Orthographic View entity at D 79 has 4 clipping planes specified.
    XMIN = -12.675   XMAX = 31.778
    YMIN = -1.053   YMAX = 3.933
    ZMIN = Not Set   ZMAX = Not Set

NITPICK 2073: Entity use flag must be 3 for View entity at D 93.
  Scale of view at D 93 is 2.500000E-01.
CAUTION 2315: Matrix associated with view contains translation information at D 93.
Orthographic View entity at D 93 has 4 clipping planes specified.

```
    XMIN =     -2.107     XMAX =     15.590
    YMIN =     -7.584     YMAX =     10.113
    ZMIN = Not Set        ZMAX = Not Set
```

NITPICK 2073: Entity use flag must be 3 for View entity at D   107.
   Scale of view at D   107 is 5.000000E-01.
CAUTION 2315: Matrix associated with view contains translation information at D
             107.
Orthographic View entity at D   107 has 4 clipping planes specified.
```
    XMIN =    -10.928     XMAX =     30.576
    YMIN =     -1.865     YMAX =      9.090
    ZMIN = Not Set        ZMAX = Not Set
```

NITPICK 2073: Entity use flag must be 3 for View entity at D   121.
   Scale of view at D   121 is 2.500000E-01.
CAUTION 2315: Matrix associated with view contains translation information at D
             121.
Orthographic View entity at D   121 has 4 clipping planes specified.
```
    XMIN =     -1.408     XMAX =     16.850
    YMIN =     -7.270     YMAX =     10.427
    ZMIN = Not Set        ZMAX = Not Set
```

NITPICK 2073: Entity use flag must be 3 for View entity at D   135.
   Scale of view at D   135 is 1.000000E-01.
Orthographic View entity at D   135 has 4 clipping planes specified.
```
    XMIN =    -17.039     XMAX =     45.148
    YMIN =     -9.831     YMAX =     40.027
    ZMIN = Not Set        ZMAX = Not Set
```


 *** Entity type: 420

ERROR   4038: Entity type is not allowed in CALS Class II.
   Network subfigure instance at D   1015 references network subfigure at D   1387.
ERROR   2162: Network subfigure definition (D   1387) follows instance entity at
             D   1015.
   Reference Designator at D   1015 is DEFAULTED.
   Network subfigure instance at D   1017 references network subfigure at D   2313.
ERROR   2162: Network subfigure definition (D   2313) follows instance entity at
             D   1017.
   Reference Designator at D   1017 is DEFAULTED.

 *** Message Summary ***

2007: 16 Mathematical discontinuities.
2008: 24 Invalid form numbers.
2011: 2 Invalid subordinate relationships.
2013: 32 Data out of defined range.
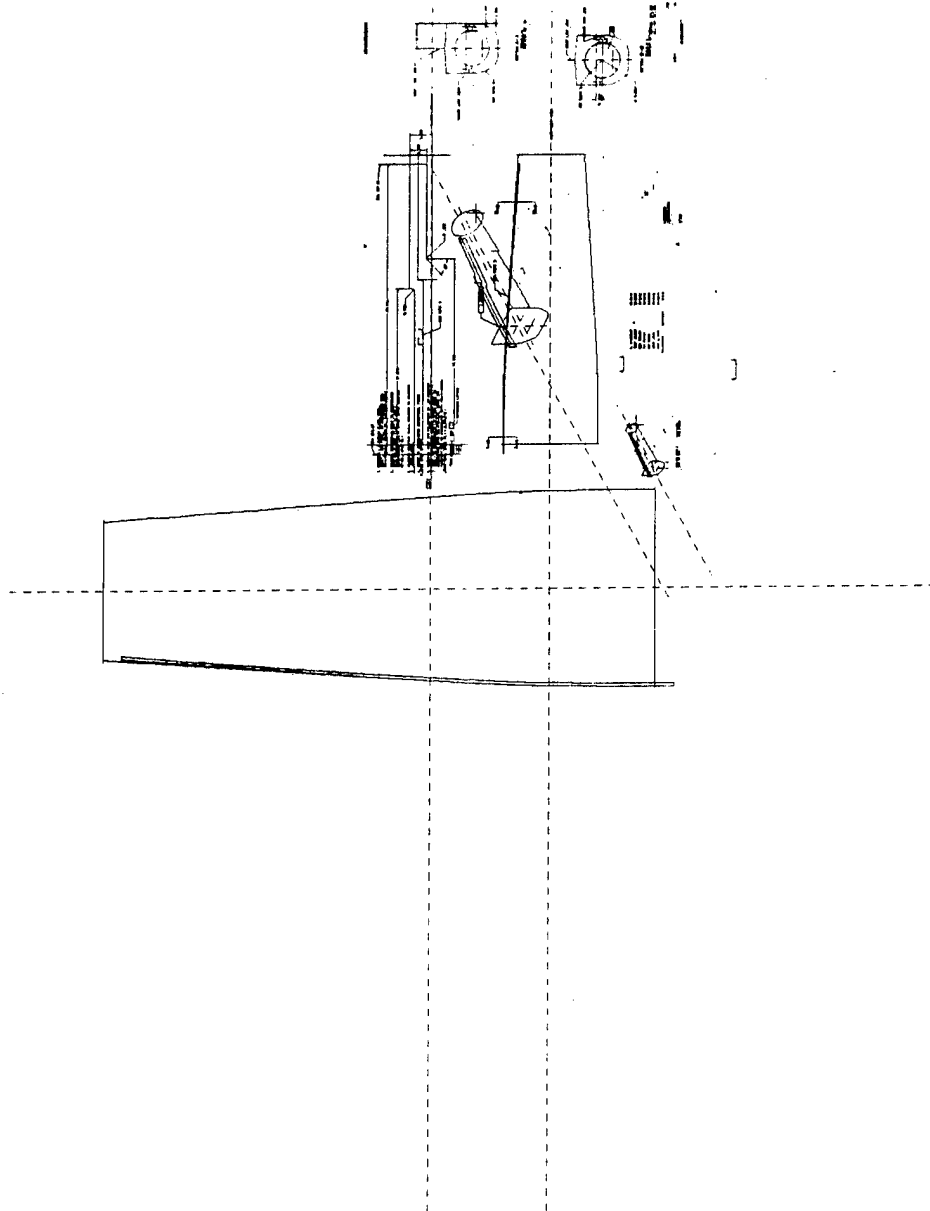2015: 1 Mathematically incorrect definitions.

2016: 23 Invalid entity use flag.
4000: 267 Miscellaneous CALS messages
4008: 2 Missing properties
4018: 3 Illegal entity types
4019: 10 Entities with illegal form

*** Error Summary ***

```
     0 fatal errors
     0 severe errors
   300 errors
   172 warnings
    15 cautions
    25 nitpicks
     1 notes
```

*** End of Analysis of ti02.igs ***

10.2.2 Output AutoCAD R11

10.2.3   Output Cadkey v4.06

10.2.4 Output IGESView

10.2.5 Output IslandDraw

10.2.6 Output Preview

11. Appendix C - Detail Raster Analysis

11.1 File D001R004

11.1.1 Output IslandPaint

11.1.2 Output Preview

12. Appendix D - CGM Detail Analysis

12.1 File D001C003

12.1.1 Parser Log MetaCheck

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 10/16/92   Time: 13:40:34

Metafile Examined   : \9268\ti03.cgm

Pictures Examined   : All
Elements Examined   : All
Bytes   Examined   : All

======================== Trace Report ========================

Tracing not selected.

============== CGM Conformance Violation Report ==============

Bulletin 20027: Element Class/ID: 4/7   Offset: 526 octets Element No. 39
Warning; a foreground color has been defined and referenced by a primitive,
while the background color has not been defined.

=========== CALS CGM Profile (MIL-D-28003) Report ===========

No profile discrepancies detected.

================= Conformance Summary Report =================

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 10/16/92   Time: 13:40:43

Name of CGM under test: \9268\ti03.cgm
Encoding   : Binary

Pictures Examined   : All
Elements Examined   : All
Bytes   Examined   : All

BEGIN METAFILE string : "HiJaak 2"
METAFILE DESCRIPTION : "HiJaak 2 MIL-D-28003/BASIC-1"

Picture 1 starts at octet offset 336; string contains: "Awesome!"

Conformance Summary : This file conforms to the CGM specification.

This file meets the CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

        1 Pictures Tested
     2393 Elements Tested
    57948 Octets Tested

        0 Illegal CGM Elements   1000 -   1999
        0 Incorrect CGM Element Lengths   2000 -   2999
        0 CGM State Errors   3000 -   3499
        0 Required CGM Elements Missing or Wrong   4000 -   4499
        0 CGM Parameter Values Out of Range   6000 -   6499
        0 CGM Structure Errors   7000 -   7499
        0   ***   CGM Errors Found (total)   ***

        0 Profile State Errors   3500 -   3999
        0 Illegal Profile Elements   4500 -   4999
        0 Profile Parameter Values Out of Range   6500 -   6999
        0 Profile Data Limits Exceeded   8500 -   8999
        0 Other Profile Constraints Violated   9500 -   9999
        0   *** Profile Violations Found (total) ***

        1 Warnings (Advisory Remarks)   20000 -   20999

        1 distinct errors and warnings were reported.

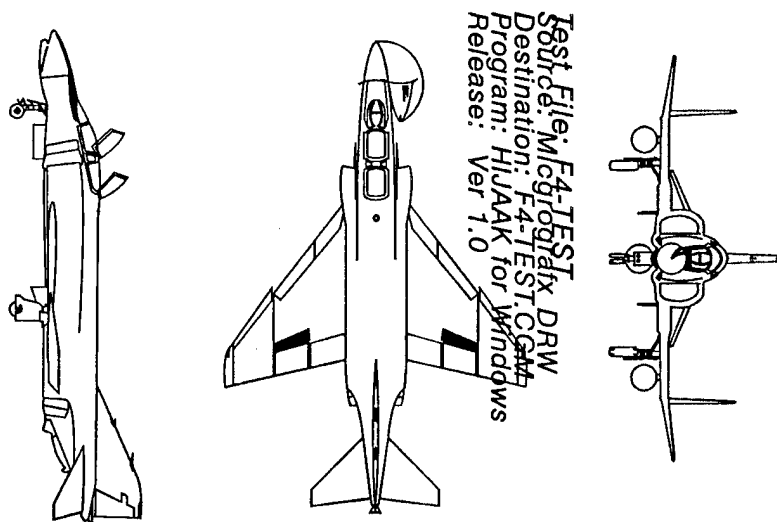================ End of Conformance Report ==================

12.1.2 validcgm Log

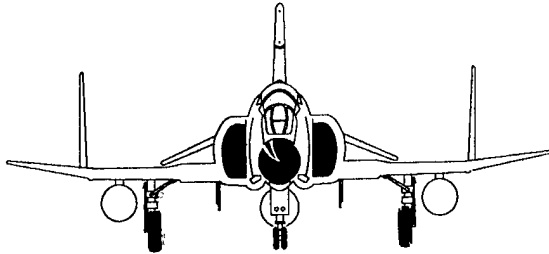Analysis for file c003.cgm using table table
(0, 1) occurred 1 time
(0, 2) occurred 1 time
(0, 3) occurred 1 time
(0, 4) occurred 1 time
(0, 5) occurred 1 time
(1, 1) occurred 1 time
(1, 2) occurred 1 time
(1, 3) occurred 1 time
(1, 4) occurred 1 time
(1, 7) occurred 1 time

(1, 8) occurred 1 time
(1, 10) occurred 1 time
(1, 11) occurred 1 time
(2, 1) occurred 1 time
(2, 2) occurred 1 time
(2, 3) occurred 1 time
(2, 4) occurred 1 time
(2, 5) occurred 1 time
(2, 6) occurred 1 time
(2, 7) never occurred, required by standard B
(3, 1) occurred 1 time
(4, 1) occurred 315 times
(4, 4) occurred 5 times
(4, 7) occurred 54 times
(5, 3) occurred 1 time
(5, 4) occurred 414 times
(5, 8) occurred 414 times
(5, 14) occurred 414 times
(5, 15) occurred 5 times
(5, 16) occurred 6 times
(5, 22) occurred 56 times
(5, 23) occurred 273 times
(5, 28) occurred 1 time
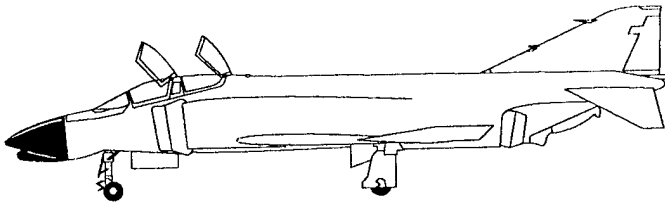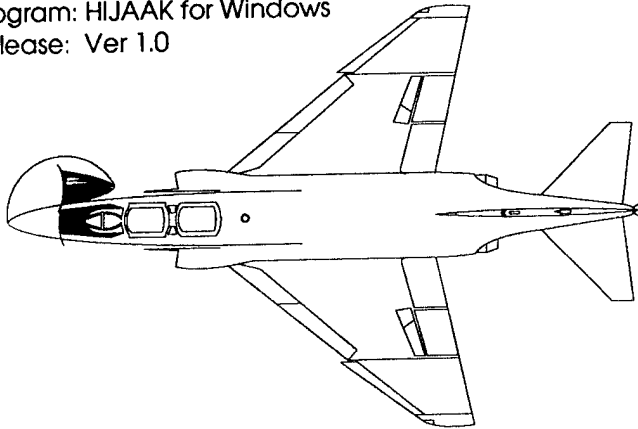(5, 29) occurred 414 times
(5, 30) occurred 1 time

12.1.3 Output Harvard Graphics

Test File: F4-TEST.
Source: Micrografx.DRW
Destination: F4-TEST.CGM
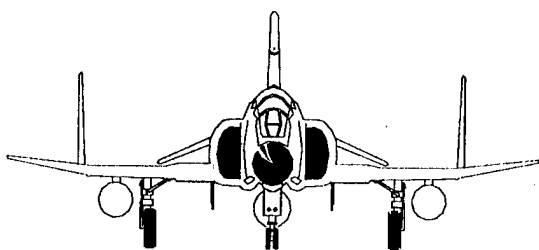Program: HiJAAK for Windows
Release: Ver 1.0

12.1.4 Output IslandDraw

Test File: F4-TEST
Source: Micgrografx DRW
Destination: F4-TEST.CGM
Program: HIJAAK for Windows
Release: Ver 1.0

12.1.5 Output cgm2draw/IslandDraw

Test File: F4-TEST
Source: Micgrografx DRW
Destination: F4-TEST.CGM
Program: HIJAAK for Windows
Release: Ver 1.0